Epoxy Resin Bonding Agents

Product Acceptance Criteria
Maine Department of Transportation – March 2006

These products shall meet the requirements of AASHTO M 235, Type V (ASTM C 881, Type V) for use in load-bearing applications for bonding freshly mixed concrete to hardened concrete.

Products shall be classified as 100% solids and be a standard two part (A+B) type epoxy. Mixing ratios shall be clearly stated in product submission as well as estimated working or open times.

There are three grades of systems defined according to their flow characteristics. Manufacturer shall clearly specify at the time of product submission which grade their product meets.

Physical Requirements

Viscosity	
Grade 1: Low Viscosity	100 - 2,000 cps
Grade 2: Medium Viscosity	2,000 – 10,000 cps
Consistency	
Grade 3: Non-sag, sag resistance:	¼-inch max.
Gel Time	30 minutes min.
Bond Strength, 14 days (moist cure)	1500 psi, min.
Water Absorption, 24 hours	1 percent, max.
Heat Deflection Temperature, 7 days	120°F, min.
Linear coefficient of shrinkage on cure	0.005 max.
Compressive Yield Strength	8000 psi, min.
Compressive Modulus	150,000 psi, min.
Tensile strength, 7 days	6000 psi, min.
Elongation at break	1 percent, min.

Epoxy systems are further characterized by "Class" indicating temperature range (see table below) of the surface of the hardened concrete to which the bonding system is to be applied. This temperature may be considerably different from that of the air. Where unusual curing rates are desired, it is possible to use a class of bonding agent at a temperature other than that for which it is normally intended. For example, a Class A system will cure rapidly at room temperature.

Class A For use below 40°F.
Class B For use between 40°F and 60°F.
Class C For use above 60°F.